IN THE CLAIMS

Please cancel claims 2-6 and amend claims 1, 7, and 9 to read as shown below. A marked-up version of the amended claims is provided on separate sheets.

1. (Currently Amended) A method for encoding and decoding blocks having a predetermined number of sectors of data bytes to detect and correct data bytes in error in each sector of a block, the method comprising the steps of:

(a) generating sector level check bytes for each sector in the block responsive to the data bytes in each sector according to a first level of an error correction code, and except when the write command is fragmented and is less than or equal to one multi-sector block of data bytes, generating block level check bytes for at least one sector in the block responsive to the sector level check bytes of at least two sectors, including the at least one sector, according to at least a second level of the error correction code; and

(b) processing the block to detect and correct data bytes in error in each sector within the capability of the sector level check bytes, to detect and correct data bytes in error in the at least two sectors that exceed the correction capability of the sector level check bytes but within the correction capability of the block level check bytes, or to indicate that the data bytes in error in the at least two sectors exceed the correction capability of each of the sector level check bytes and the block level check bytes.

2. (Canceled) The method according to claim 1 further comprising the step of: re-generating the block level check bytes for the at least one sector responsive to the data bytes in error detected in each sector.

3. (Canceled) The method according to claim 1 further comprising the step of:

disabling the step of generating the block level check bytes when the write command is

fragmented and is less than or equal to one multi-sector block of data bytes.

4. (Canceled) The method according to claim 1 wherein each sector has 512 data bytes and

each block has eight sectors.

5. (Canceled) The method according to claim1 wherein the blocks represent audio and

visual information.

6. (Canceled) The method according to claim 1 wherein the at least two sectors are adjacent

to each other.

7. (Currently Amended) A method for encoding and decoding blocks having a

predetermined number of sectors of data bytes to detect and correct data bytes in error in

each sector of a block, the method comprising the steps of:

(a) generating sector level check bytes for each sector in the block responsive to the data

bytes in each sector according to a first level of an error correction code, and

generating block level check bytes for at least one sector in the block responsive to

the sector level check bytes of at least two sectors, including the at least one sector,

according to at least a second level of the error correction code; and

(b) processing the block to detect and correct data bytes in error in each sector within the

capability of the sector level check bytes, to detect and correct data bytes in error in

the at least two sectors that exceed the correction capability of the sector level check

bytes but within the correction capability of the block level check bytes, or to
indicate that the data bytes in error in the at least two sectors exceed the correction
capability of each of the sector level check bytes and the block level check bytes;

(c) receiving logical block addresses (LBAs) from a host operating system for each
write/read command, wherein the LBAs are translated into physical locations within
blocks located on a track of a moving storage medium of a data storage device;

(d) controlling the step of generating when writing data bytes responsive to the LBAs; and

(e) controlling the step of processing when reading data bytes responsive to the LBAs.

8. (Original) A method for encoding and decoding blocks having a predetermined number
of sectors of data bytes to detect and correct data bytes in error in each sector of a block,
wherein each sector has 512 data bytes, wherein the blocks represent audio and visual
information, the method comprising the steps of:

(a) receiving logical block addresses (LBAs) from a host operating system for each write
command and each read command, wherein the LBAs are translated into physical
assignment of each sector to corresponding blocks on tracks on a moving storage
medium of a data storage device, wherein an integral multiple of blocks are written
on each track;

(b) writing data bytes to the moving storage medium responsive to the LBAs, wherein the
step of writing further comprises the step of:

(b1) generating sector level check bytes for each sector in the block responsive to the data
bytes in each sector according to a first level of an error correction code, and
generating block level check bytes for at least one sector in the block responsive to

the sector level check bytes of at least two sectors, including the at least one sector, according to at least a second level of the error correction code;

(c) reading data bytes from the moving storage medium responsive to the LBAs, wherein the step of reading further comprises the step of:

(c1) processing the block to detect and correct data bytes in error in each sector within the capability of the sector level check bytes, to detect and correct data bytes in error in the at least two sectors that exceed the correction capability of the sector level check bytes but within the correction capability of the block level check bytes, or to indicate that the data bytes in error in the at least two sectors exceed the correction capability of each of the sector level check bytes and the block level check bytes;

(d) re-generating the block level check bytes for the at least one sector responsive to the data bytes in error detected in each sector during the step of reading.

9. (Currently Amended) In a data storage device, an apparatus for encoding and decoding blocks having a predetermined number of sectors of data bytes to detect and correct data bytes in error in each sector of a block, the apparatus comprises:

(a) an encoder for generating sector level check bytes for each sector in the block responsive to the data bytes in each sector according to a first level of an error correction code, and generating block level check bytes for at least one sector in the block responsive to the sector level check bytes of at least two adjacent sectors, including the at least one sector, according to at least a second level of the error correction code; and

(b) a decoder for processing the block to detect and correct data bytes in each sector within the capability of the sector level check bytes, to detect and correct data bytes in error

in the at least two adjacent sectors that exceed the correction capability of the sector

level check bytes but within the correction capability of the block level check bytes,

or to indicate that the data bytes in error in the at least two adjacent sectors exceed

the correction capability of each of the sector level check bytes and the block level

check bytes.